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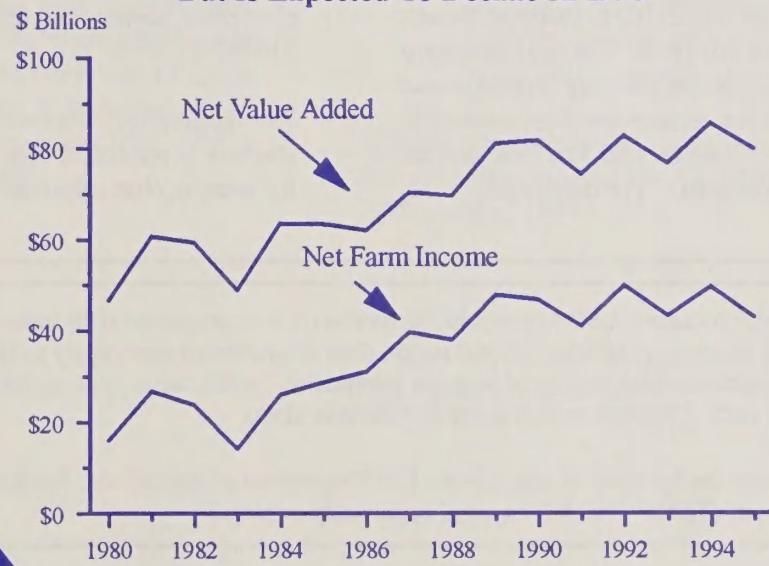
Situation and Outlook Report

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Agriculture's Net Value Added Was Record High In 1994,
But Is Expected To Decline In 1995



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Summary

Net farm income is forecast at \$38 to \$48 billion in 1995, down from the \$50 billion projected for 1994. The 1994 forecast challenges the all-time high of \$50 billion in 1992 and reflects a record commodity inventory adjustment of \$7 billion from historically large production. Net cash income is forecast to range from \$48 to \$58 billion in 1995, compared with \$54 billion projected for 1994. Average farm household income is expected to increase slightly in 1994 and remain steady through 1995.

Cash receipts from farm marketings are projected at \$176 to \$184 billion in 1995, and \$180 billion in 1994. Cash receipts for both years could approach record levels due to strong crop receipts bolstered by export and domestic demand. Large supplies of red meats will put downward pressure on livestock receipts through 1995. Direct government payments are forecast at \$6 to \$8 billion in 1995, the lowest since 1985. Government payments are expected to represent about 4 percent of gross cash income in 1994 and 1995, down from 5 percent during 1989-93.

Farm production expenses are forecast at \$162 to \$170 billion, up slightly from the 1994 forecast of \$164 billion. The stability in the 1995 expense forecast reflects the expectation that higher fertilizer expenses will be offset by lower cost of farm-origin inputs, such as feed and livestock..

U.S. farm sector assets should have increased nearly 5 percent during 1994 to \$930 billion, partly because farm real estate values are likely to rise more than inflation for only the second time since 1987. Asset values in 1995 are forecast at \$942 to \$952 billion. Farm business debt is forecast to increase more than 3 percent in 1994, slightly higher than the recent trend of modest growth in outstanding loan balances. The nominal increase in borrowing is expected to be sustained through at least another year, as total debt is forecast at \$150 to \$154 billion for 1995.

- Compared with 1994, net cash income could decline the most on farms that specialize in red meat production. U.S. beef production could be the largest since 1977, while 1995 farm prices for cattle could be as much as 13 percent lower than the 1989-93 average.
- Weather-delayed planting this spring could lead to a wide disparity in farm income for Midwest and Northern Plains farmers. Rainy spring weather may lead to some financial stress, particularly for those farmers who have not fully recovered from the 1993 floods. On the other hand, farmers with good crops may benefit from higher grain prices.
- Analysis of the impacts of direct government payments on farmland values suggests that, on average, real estate values would have been no more than 14 percent lower during 1950-93 if farmers did not receive payments. Current land values anticipate lower program payments, which means further reductions will have less of an impact in the future. Over time, some producers would shift away from program crops to more profitable crop alternatives. The greatest impacts would be in the Delta, Northern Plains, and Southern Plains regions, where for many farms government payments represent at least 20 percent of gross cash income.
- Despite tight credit markets facing high-risk loan applicants, lenders continue to aggressively pursue qualified borrowers, and competition for quality loans will continue to intensify in 1995.

Commercial bank loans increased almost \$3.5 billion in 1994 and are expected to surpass 40 percent of all debt outstanding by the end of 1995.

Crop Receipts May Set Record in 1995, Helping To Offset Lower Expected Livestock Receipts

Low livestock prices and higher fertilizer prices may push 1995 farm income below the 1989-93 average. On the other hand, export markets are contributing to possible record crop receipts.

Farm income is forecast to be slightly lower in 1995 than the previous 5-year average. Receipts from crops could be better than average, partly due to strong export demand. On the other hand, lower livestock prices due to heavy production could depress livestock earnings. Forecast higher expenses for interest and fertilizer also contribute to the slightly lower income forecasts.

Net cash income is the income farm operators and other investors in farm assets earn from farm businesses. This money can be used to support family living expenses, pay farm or nonfarm debts, pay taxes, purchase equipment, or for other purposes. For more detail on how ERS calculates its income measures see appendix tables 1 and 3. Net cash income is forecast at \$48-\$58 billion in 1995 and at \$54 billion in 1994. This compares with an average of \$56 billion during 1989-93. Net cash income in 1993 was \$6 billion higher than the midpoint of the 1995 forecast.

Net farm income is a broader measure of the income that agriculture generates than net cash income. It includes not only cash incomes such as crop and livestock sales, but also noncash incomes like the value of commodities produced but not yet sold and the value of commodities that are consumed on farms where produced. It also accounts for cash expenses for inputs such as fertilizer, and for noncash expenses, such as the value of machinery used up in the production of crops and livestock. Net farm income is forecast at \$38-\$48 billion in 1995, and \$50 billion in 1994. During 1989-93, net farm income averaged \$46 billion.

Farm Household Income Expected To Increase Slightly

Average farm household income is expected to increase slightly in 1994 and remain steady through 1995. Average off-farm income is expected to be between \$37,000 and \$39,000 in 1995, while average farm income is forecast at \$3,600 to \$6,600.

Consistent with the Census Bureau's definition of self-employment income, farm income to the household is net cash farm income less depreciation (adjusted for the share received by the senior operator household in the case of multiple-household farms).

Most farm households also receive some income from off-farm sources, and the majority of households associated with

small farming operations are more dependent on off-farm income than income from their farming activities. For all farm operator households, average household income compares favorably with that of other U.S. households. According to the most recent estimates from the Farm Costs and Returns Survey and the Department of Commerce, respectively, average farm operator household income was \$40,223 in 1993, compared to the national average household income of \$41,428.

Strong Crop Receipts May Push Cash Receipts To Record Highs

Cash receipts from crop and livestock sales are about 90 percent of gross cash income. Cash receipts for crops and livestock are forecast at \$176-\$184 billion in 1995, and \$180 billion in 1994. Both the 1994 forecast and the midpoint of the 1995 forecast would be records. Projected high crop receipts underpin these forecasts because livestock cash receipts are projected to stay steady or decline compared with 1989-93. Cash receipts averaged \$169 billion in 1989-93 and reached their historical high of \$175 billion in 1993.

After corn, soybeans produce the second largest crop cash receipts, 7 percent of total cash receipts in 1989-93 compared to corn's 8 percent. The midpoint of the 1995 forecast for soybean cash receipts and the 1994 forecast are around \$13 billion. The last time soybean cash receipts were higher was 1980 when they reached \$14 billion.

Soybeans are an example of how international markets are bolstering crop cash receipt forecasts. Export demand has kept soybean prices from falling as much as they might have given a record 1994 crop and a 1995 crop that may be the third largest ever. Most soybeans are crushed to make soybean oil and meal. High prices for palm oil, a competitor on the world vegetable oil market, and strong Chinese demand for imported vegetable oil, have contributed to soybean export demand.

Cotton is another example of a crop where strong demand has boosted prices despite high production. Cotton cash receipts are forecast at \$6-\$8 billion in 1995, and \$6 billion in 1994, both potential records. From 1989 to 1993, cotton cash receipts averaged \$5 billion.

Despite record cotton production in 1994 and another possible record this year, domestic demand remains strong.

As happened with soybeans, China has been important in creating this price-sustaining demand.

Sales of cattle and calves make up the single largest proportion of total cash receipts, 23 percent from 1989 to 1993. Both the midpoint of the 1995 cash receipt forecast for cattle and calves and the 1994 forecast are around \$36 billion. For comparison, cattle and calf cash receipts averaged \$39 billion from 1989 to 1993.

Beef production in 1994 and 1995 could be the largest seen since 1977 when herds were being liquidated. In contrast to soybeans, neither national nor export demand has been great enough to bolster cattle prices in the face of the large available supply. The peso devaluation has cut Mexican beef imports from the United States in half. In 1995 farm prices for cattle could be as much as 13 percent lower than the 1989-93 average.

Direct Government Payments Forecast Lower Than Previous 5 Years

Direct Government payments include price support payments for crops, conservation program payments, and disaster assistance. For 1995 these payments are forecast at \$6-\$8 billion, while the 1994 forecast is \$8 billion. These forecasts place Government payments at about 4 percent of farm gross cash income in 1994 and 1995. For 1989-93 direct Government payments averaged \$10 billion and were 5 percent of farm gross cash income.

As market prices increase, Government outlays for commodity programs decline. High forecast 1995 cotton prices could hold Government payments for cotton at a level last seen in the mid-1970s, contributing to the lower 1995 government payment forecast. Strong wheat prices should also keep wheat payments to a moderate level.

Though the forecast of 1995 Government payments is lower, federal crop insurance payments could make a larger contribution to farm incomes than in previous years. More farmers now participate in the programs and there could be payments for losses from flooding in the Midwest earlier this year. Payments from farm insurance policies are included in farm-related income. The premiums are a part of miscellaneous expenses.

Few Large Changes Forecast for Expenses

Farm-origin inputs are those inputs produced on farms and include livestock feed, livestock, and seed (see appendix table 5). From 1989 to 1993, about 30 percent of farm cash expenses were for farm-origin inputs. Forecasts indicate that farmers may spend less on livestock purchases in 1994 and 1995 as large supplies of livestock depress prices. On the other hand, large livestock inventories may mean that farmers will spend more for livestock feed.

Commodity Inventory Increase May Have Been a Record in 1994

ERS adjusts net farm income for inventory changes so that it will reflect production from one year only (see "value of inventory change" line in Appendix table 1).

The inventory adjustment subtracts the value of commodities produced in the previous year and sold during the current year from cash receipts and adds in the value of unsold and unused commodities produced in the current year. For 1995 the inventory adjustment forecast is \$0-\$4 billion, while the 1994 adjustment of \$7 billion was a record.

For comparison, inventory adjustment in 1989-93, though negative in some years, averaged \$2 billion. Record 1994 crops helped boost ending year inventories since a portion of the production was not sold until 1995.

Manufactured inputs, like fertilizer and pesticides, accounted for 17 percent of farm cash expenses from 1989 to 1993. Fertilizer expenditures are forecast at \$9-\$11 billion for 1995 and \$9 billion for 1994. They averaged \$8 billion in 1989-93 with the previous highest expenditure at \$9.1 billion in 1980.

Prices for nitrogen fertilizers such as anhydrous ammonia have been as much as a third higher in the spring of 1995 than a year earlier, explaining much of the higher forecast. Higher fertilizer prices could be particularly important in the Corn Belt, which accounts for 28 percent of total fertilizer expenditures. For comparison, the Lake States account for the second largest share, 11 percent. On farms that specialize in corn, fertilizer purchases are 15 percent of total cash expenses, compared with just 5 percent on farms that specialize in beef.

Agriculture's Net Value Added Rose in 1994

Besides producing income for farm operators and other owners of farm assets, production agriculture also contributes to the earnings of farm workers, lenders, and nonfarming landlords (see appendix table 7). Net value added measures this contribution of agriculture to the broader economy with an increase in net value added indicating an increased contribution. Each group's share of net value added can vary from year to year.

From 1989 to 1993, the agricultural sector created an average \$79 billion in net value added each year. Compare that to the average \$46 billion in net farm income for the same period. The 1995 forecast for net value added is \$76-\$84 billion, and the 1994 forecast is \$86 billion. Record crop production and inventory accumulation contributed to this possible record.

net value added by agriculture in 1994. Increased earnings by lenders and farm workers also made important contributions.

Net Cash Income Expected To Decline in 1995 on Farms Specializing in Meat Production

Compared with 1994, farms that specialize in red meat production could have the largest percentage declines in net cash income (see appendix table 6). The forecast is driven largely by lower forecast prices for cattle and hogs. Farms specializing in cash grains may also have lower net cash incomes in 1995 than in 1994. Lower Government payments, stemming from higher forecast prices, and higher expenses, in part due to more expensive fertilizer, explain much of the forecast decline on cash grain farms.

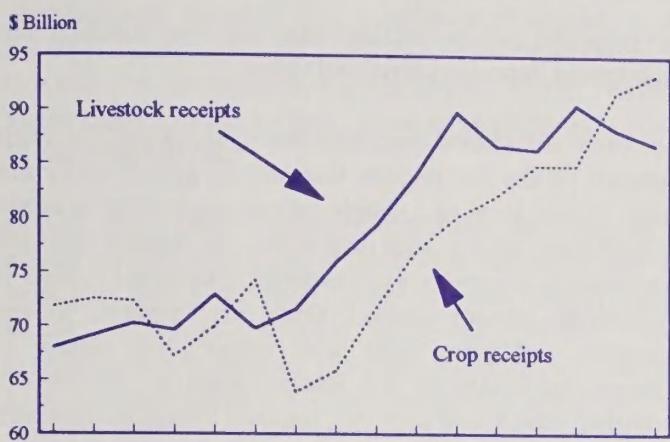
Weather-Delayed Plantings May Influence Farm Income

Farmers in the Midwest and Northern Plains have been unable to plant grains as early as usual because of cool, rainy spring weather. Some of the acres will not be planted at all, some will not get planted to the crop the farmers indicated they were going to plant, and historical relationships would indicate that the late planted corn and soybeans would have below-trend yields. This could cause some financial stress, especially for those Midwest farmers who may not have fully recovered from the 1993 floods.

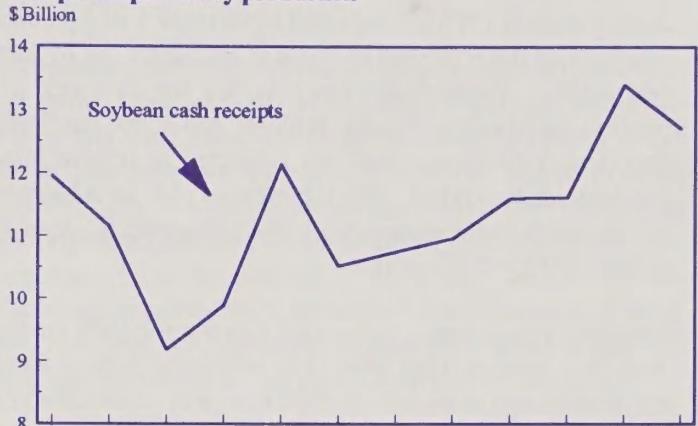
On the other hand, grain prices will increase if production declines. World stocks of feed grains are low and China and other Asian countries are importing more grains for livestock feed. So, farmers with good crops could earn more for their grain. Their increased earnings for commodity sales would be partially offset by lower Government payments.

ERS forecasts that in 1995....

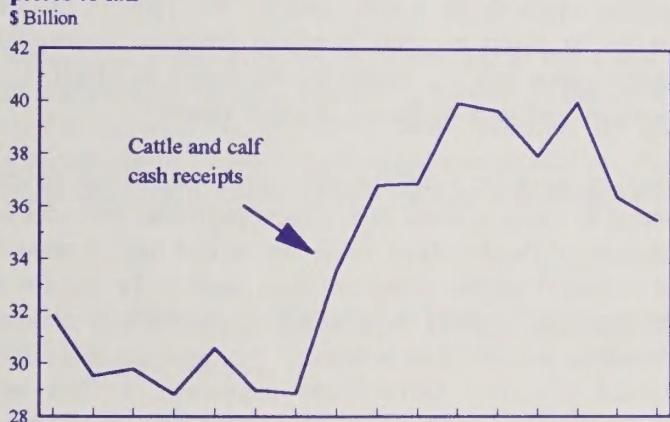
Crop receipts may increase while livestock receipts decline



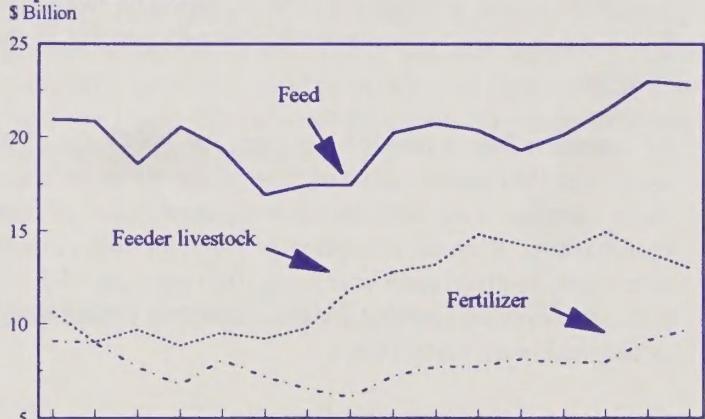
Strong demand for soybean oil could bolster soybean receipts despite heavy production



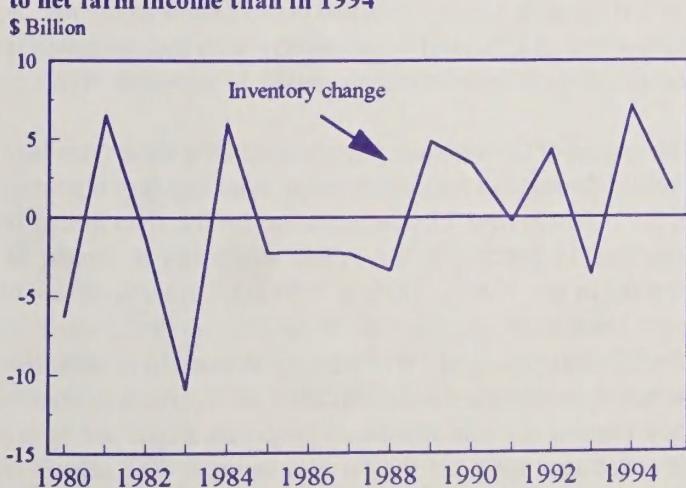
Demand may lag heavy beef production, allowing prices to fall



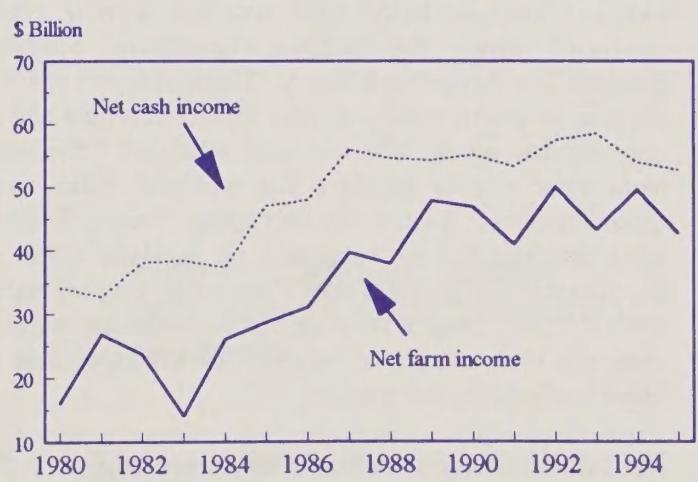
Farm-origin expenses could decline while fertilizer expenses increases



Inventory increase will make a much smaller contribution to net farm income than in 1994



Net cash and net farm income could decline slightly



Balance Sheet Stability Continues

Farm assets are expected to rise slightly in nominal terms in 1995 after increasing nearly 5 percent in 1994.

Asset values in 1995 are expected to increase 1 to 2 percent. The bulk of the projected increase is accounted for by farm real estate. Yearend inventory values for livestock and poultry, machinery and motor vehicles, and crops, purchased inputs, and financial assets are projected to remain fairly constant. At the end of 1995, the value of U.S. farm business assets, which excludes operator household assets, is expected to total \$942 to \$952 billion.

Changes in aggregate asset values forecast for 1995 are less than those estimated for 1994. The value of U.S. farm sector assets increased more during 1994 than was expected a year ago, partly because real estate values exceeded the rate of inflation for only the second time since 1987. The value of farm assets increased an estimated 4.7 percent during 1994, from \$888 billion on January 1 to \$930 billion on December 31. Farm real estate accounted for over 85 percent of the increase.

At current inflation rates (2.1 percent for 1994), the 1994 increase in the nominal value of farm sector assets implies a slight increase in the real (inflation-adjusted) value of farm sector assets. With the exception of 1987, the real value of farm assets declined each year from 1980 through 1992. At present, the real value of U.S. farm real estate is near levels established in the early 1960's.

Farmland Values Strong Despite Program Uncertainty

Final estimates of 1994 land values will not be available until later this summer because the survey in which farmland values have historically been obtained is now being conducted within the National Agricultural Statistics Service's June Agricultural Survey. The shift is part of ERS' ongoing efforts to streamline data collection efforts and to improve data quality and statistical reliability. Evidence from other sources indicates that farmland values have remained robust. A survey by the Chicago Federal Reserve Bank indicated that the value of good farmland within its district increased an average of 5 percent in the year ended April 1, 1995. Despite the projected slight decreases in net income in 1995, strong land values indicate an expectation of future profitability in the sector.

Agriculture can expect reduced Government support in the future, given the current political drive to reduce the budget deficit. While some are forecasting drastic drops in farmland values in areas particularly reliant on Government payments,

the projected income declines have not been translated into widespread depressed farmland values.

The value of farmland, like most productive assets, ultimately depends on the net income that can be generated by that asset. Application of a simple income capitalization model to farm earnings provides insight into the relative historical contribution of Government payments to farmland values. In this analysis, income returns to assets include returns to farm operators and other farm asset owners, net returns to nonoperator landlords, and interest expense. In USDA's published farm sector accounts, imputed returns to operators' labor and management are deducted in the computation of rates of return to assets and equity. Here, omission of this deduction for labor and management produces the maximum income available for capitalization. The ratio of income returns to assets to total farmland value is an implicit capitalization rate for measuring the extent to which farm earnings contribute to farm real estate values.

Application of the implied capitalization rate to the income returns to assets, without Government payments, provides an estimate of the farmland value that would have existed if Government payments had not been made to the owners of farmland, and if those owners had not been able to develop alternative sources of farm income. Because this analysis is limited to direct Government payments, it does not incorporate price supporting and income stabilizing effects of Commodity Credit Corporation purchases on land values.

This simple analysis suggests that farm real estate values would have averaged about 13.5 percent lower during 1950-1993 if farmers had not received Government payments. A comparison of U.S. land value per acre with that estimated in the absence of Government payments is shown in Figure 6.

The impact of Government payments on land values has been cyclical throughout the period, rising from less than 6 percent in the 1950's to over 17 percent in the 1960's, then falling to less than 14 percent in the 1970's and rising to almost 16 percent in the 1980's. During 1984-93, land values would have been lower by almost 18 percent in the absence of Government payments. While these calculations indicate that farmland owners have benefited from Government payments, they suggest that elimination of programs would not have a devastating impact on the farm economy. The effects of elimination of farm programs on land values would likely be lower than the 1950-93 average for two reasons.

One, farm spending is projected to decline, even assuming current levels of farm support, due to stronger world prices for most commodities. Thus, Government payments will likely be less of a factor in determining farmland values. Two, the long run effects would likely be mitigated as some producers shift away from program crops to more profitable crop alternatives. However, elimination of Government support could translate into a substantial impact on the balance sheets of some individuals. And, because Government payments are concentrated in the Northern Plains and western Corn Belt, operators in these areas would be the most affected.

During 1994, farmland prices may have been buoyed by export growth, which has allowed U.S. farmers to sell the large 1994 crop at relatively favorable prices. Healthy global demand, relatively low world stocks, and potentially lower production due to delayed U.S. spring plantings, all suggest a strong upside potential for farm commodity prices and land values in 1995.

Government Payments Most Important in Plains and Delta

Reductions in Government payments would not affect all farm operations equally. Obviously, impacts on income and land values would be greatest for those producers and areas concentrating in production of program commodities. Farm Costs and Returns Survey (FCRS) results indicate that about

34 percent of all farms with sales greater than \$40,000 received no Government payments at all in 1993 (table 1). The percentage of farm operations of this size reporting no Government payments was greatest in the Pacific States (74 percent), Northeast (68 percent), Appalachia (56 percent) and Southeast (54 percent). Farm operations in these areas would be largely unaffected by reductions in direct Government payments.

Government payments accounted for more than 20 percent of all gross cash income on almost 15 percent of farms. Payments were most significant to farm operations in the Delta and Northern and Southern Plains, where over 25 percent of farms with sales greater than \$40,000 reported Government payments in excess of 20 percent of gross cash income. Over 50 percent of Corn Belt farms received Government payments of between 5 and 20 percent of gross cash income, but payments accounted for more than 20 percent of income on less than 12 percent of operations.

Those most reliant on payments also received the bulk of those payments, as over 40 percent of all Government payments went to farms that received more than 20 percent of gross cash income in the form of payments. Over 10 percent of all 1993 Government payments made to farms with sales greater than \$40,000 went to operations in the Northern Plains that received more than 20 percent of gross cash income from payments.

Estimated Effect of Direct Government Payments on Farmland Values, 1950-93

Dollars per acre

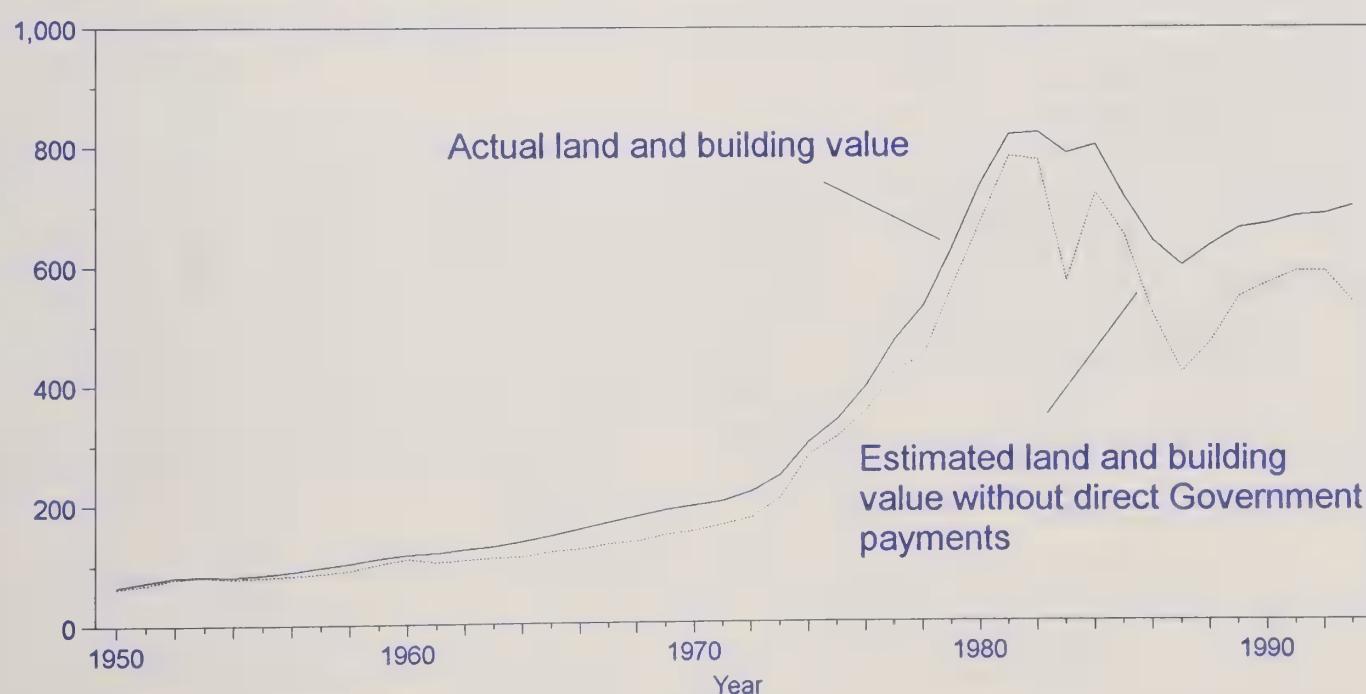


Table 1 -- Farms 1/ reporting income from Government payments and Government payments, by region

Item Region	Share of gross cash income from Government payments					All farms	
	Greater than 20	10 to 20	5 to 10	Less than 5	No payments		
Number							
Number of farms							
Northeast	2,381	2,280	1,563	7,305	29,105	42,634	
Lake States	10,234	17,122	16,142	20,800	18,089	82,387	
Corn Belt	18,343	51,101	30,290	26,589	31,493	157,816	
Northern Plains	26,272	32,527	14,039	11,041	10,522	94,401	
Appalachia	1,461	3,055	3,203	10,483	23,390	41,592	
Southeast	2,069	3,867	3,619	5,338	17,490	32,383	
Delta	6,840	3,166	1,324	2,391	12,881	26,602	
Southern Plains	12,755	6,722	6,364	5,099	16,640	47,580	
Mountain	8,035	6,184	4,576	5,432	16,892	41,119	
Pacific	2,043	3,180	2,077	4,257	32,862	44,419	
All U.S. farms	90,433	129,204	83,197	98,735	209,364	610,933	
Percent							
Percent of all U.S. farms							
Northeast	0.39	0.37	0.26	1.20	4.76	6.98	
Lake States	1.68	2.80	2.64	3.40	2.96	13.49	
Corn Belt	3.00	8.36	4.96	4.35	5.15	25.83	
Northern Plains	4.30	5.32	2.30	1.81	1.72	15.45	
Appalachia	0.24	0.50	0.52	1.72	3.83	6.81	
Southeast	0.34	0.63	0.59	0.87	2.86	5.30	
Delta	1.12	0.52	0.22	0.39	2.11	4.35	
Southern Plains	2.09	1.10	1.04	0.83	2.72	7.79	
Mountain	1.32	1.01	0.75	0.89	2.76	6.73	
Pacific	0.33	0.52	0.34	0.70	5.38	7.27	
All U.S. farms	14.80	21.15	13.62	16.16	34.27	100.00	
Million dollars							
Direct Government payments							
Northeast	59	38	24	41	0	162	
Lake States	377	351	251	91	0	1,164	
Corn Belt	464	997	457	177	0	2,095	
Northern Plains	829	693	223	83	0	1,828	
Appalachia	52	64	52	39	0	207	
Southeast	170	119	55	35	0	379	
Delta	322	152	46	10	0	530	
Southern Plains	647	240	92	45	0	1,024	
Mountain	389	152	73	38	0	652	
Pacific	99	109	57	76	0	341	
All U.S. farms	3,408	2,915	1,330	635	0	8,288	
Percent							
Percent of all U.S. Government payments							
Northeast	0.71	0.46	0.29	0.49	0.00	1.95	
Lake States	4.55	4.24	3.03	1.10	0.00	14.04	
Corn Belt	5.60	12.03	5.51	2.14	0.00	25.28	
Northern Plains	10.00	8.36	2.69	1.00	0.00	22.06	
Appalachia	0.63	0.77	0.63	0.47	0.00	2.50	
Southeast	2.05	1.44	0.66	0.42	0.00	4.57	
Delta	3.89	1.83	0.56	0.12	0.00	6.39	
Southern Plains	7.81	2.90	1.11	0.54	0.00	12.36	
Mountain	4.69	1.83	0.88	0.46	0.00	7.87	
Pacific	1.19	1.32	0.69	0.92	0.00	4.11	
All U.S. farms	41.12	35.17	16.05	7.66	0.00	100.00	

^{1/} Farms with sales greater than \$40,000.

Source: 1993 Farm Costs and Returns Survey, all versions

Farm Debt To Continue Recent Rise

Preliminary indications are that total farm business debt increased more than 3 percent in 1994 (table 2). This rise is slightly higher than the recent trend of modest growth in outstanding loan balances. The continuing recovery from the 1993 Midwest flood and Southeast drought produced only a modest rise in new loan demand. Farmers and lenders, while cautious in financing farm activities, appeared to maintain confidence in the long-run profitability of the sector. The nominal increase in borrowing is expected to be sustained through at least another year, as total debt is forecast to rise over 3 percent again in 1995.

When Consolidated Farm Service Agency (CDSA, formerly the Farmers Home Administration) direct lending activity is excluded from the analysis of farm business debt, the 1994 rise appears more substantial. CDSA direct loans declined by \$560 million in 1994, a drop of 4.6 percent, as the agency continued to work through its problem loan portfolio. CDSA direct loan debt is expected to decline another 5 percent in 1995.

Flood and Drought Effects on Borrowing Patterns Have Worked Through

The abnormal weather of 1993 affected the seasonal pattern of farmers' use of credit, rather than generating a rise in outstanding loan balances. Farmers borrowed later in the year, and lenders were more willing to offer extensions and renewals to those experiencing weather-related repayment difficulties. Data reported by banks in yearend call reports filed with the FDIC support this conclusion. In 1994, the average fourth-quarter paydown in bank nonreal estate loans was 4.6 percent. This is more consistent with the 1987-92 average of 3 percent, than with 1993, when the fourth quarter paydown was less than 1 percent.

With the sector experiencing lower net cash income, farmers operating on tight margins in 1995 may have increased difficulty obtaining operating credit from traditional sources, especially if they were financially stressed in 1994. The reduction in CDSA direct lending programs means that marginal operations have fewer credit alternatives. Input suppliers may be partially filling this credit void by offering favorable financing terms.

Otherwise, lenders generally have reported ample funds to meet the expected 1995 borrowing needs of credit-worthy customers. Bankers reported that demand for loans was generally higher at the end of 1994, while fund availability was up only slightly. The average loan-to-deposit ratio at commercial banks rose to 63 percent at the end of 1994, its highest level since the late 1970's, when many banks were felt to be suffering from reduced liquidity. Despite these trends, about half of the bankers responding to the Federal

Reserve Bank Quarterly Survey of Agricultural Credit Conditions indicated that their loan-to-deposit ratio was lower than desired. The changing structure of banking, with mergers and evolving correspondent relationships, may be permitting individual banks to access additional loan sources beyond their own deposits.

Despite the tight credit market facing higher risk loan applicants, lenders continue to aggressively pursue qualified borrowers, and competition for quality loans will continue to intensify in 1995. Commercial bank loan balances increased almost \$3.5 billion during 1994, rising for the seventh consecutive year.

Farm Credit System Recovery Continues

The Farm Credit System (FCS) reported a total farm loan increase of \$620 million in 1994. This follows a decrease of more than \$200 million in farm business loans outstanding in 1993. However, at the end of 1994, FCS debt is expected to stand more than 43 percent below its 1984 peak. FCS debt is anticipated to rise less than 2 percent in 1995. Despite its difficulty in increasing loan balances and in regaining market share, FCS continues to report improved overall financial performance. Lower interest rates improved System earnings during 1990-94. Improved borrower financial condition has translated into improved FCS performance.

Banks Gain Market Share

Commercial banks surpassed the Farm Credit System as the principal lender to agriculture in 1987. Apparently using flexibility as both real estate and nonreal estate lenders to their advantage, commercial banks raised their share of all farm lending from 22 percent in 1982 to 39 percent by the end of 1994. Banks have benefited from the Consolidated Farm Service Agency's increasing focus on guaranteed loans, which have increased from less than \$2 billion at the end of 1986 to almost \$6 billion by the end of 1994. While CDSA funding for direct and guaranteed loans can be expected to be limited for the foreseeable future, the agency will continue to emphasize its guaranteed loan programs.

Commercial bank real estate loans outstanding have increased annually since 1982, rising 180 percent during 1983-94. Banks' share of total real estate debt rose from less than 8 percent in 1982 to 27 percent in 1994. If current growth rates continue, commercial banks should surpass the Farm Credit System as the primary source of farm real estate debt during 1998.

Banks' share of total farm business debt is expected to increase in 1995, as banks for the first time surpass 40 percent of all debt outstanding by the end of 1995. The FCS' market share has stabilized at about 25 percent during 1988-94, after falling from 34 percent of all debt in 1982.

Farm Sector Financial Performance

Rates of return on farm assets and farm equity are expected to remain relatively high in 1994 and 1995. The rate of return on equity from current income is expected to be 2-3 percent. Other measures of financial performance such as the debt servicing ratio and the debt-to-asset ratio also suggest a modestly improving farm sector during 1994 and 1995 (table 4).

The debt servicing ratio is the proportion of gross cash income needed to service debt. In 1983, principal and interest payments took 28 percent of gross cash income. With lower debt and more favorable interest rates, less than 14 percent went for those obligations in 1994. After peaking at 23 percent in 1985, the aggregate farm debt-to-asset ratio has stabilized at 16-17 percent.

Table 2--Total farm debt increased almost \$5 billion in 1994, but is \$47 billion below 1984

Lender	1984	1986	1989	1993	1994P	1995F
-----Million dollars-----					--Billion dollars--	
Real estate	106,697	90,408	75,351	75,977	77	76 to 80
Farm Credit System	46,596	35,593	26,674	24,872	25	24 to 26
Consolidated Farm Service Agency ^{1/}	9,525	9,713	8,130	5,834	5	4 to 6
Life insurance companies	11,891	10,377	9,045	8,980	9	8 to 10
Commercial banks	9,626	11,942	15,551	19,580	21	22 to 24
CCC storage facility	623	123	12	0	0	0
Individuals & others	28,438	22,660	15,939	16,711	17	17 to 19
Nonreal estate	87,091	66,563	61,881	65,927	69	71 to 75
Commercial banks	37,619	29,678	29,243	34,939	37	38 to 40
Farm Credit System	18,092	10,317	9,544	10,540	11	10 to 12
Consolidated Farm Service Agency	13,740	14,425	10,843	6,239	6	5 to 6
Individuals & others	17,640	12,143	12,250	14,210	15	15 to 17
Total debt	193,788	156,971	137,231	141,905	147	149 to 155
Farm Credit System	64,688	45,910	36,218	35,412	36	35 to 38
Consolidated Farm Service Agency	23,263	24,138	18,974	12,073	12	10 to 12
Commercial banks	47,245	41,620	44,795	54,519	58	60 to 64
Life insurance companies	11,891	10,377	9,045	8,980	9	8 to 10
Individuals & others	46,701	34,926	28,201	30,921	32	32 to 35

Farm business debt outstanding as of December 31. ^{1/} Formerly Farmers Home Administration
 P = Projected, F = Forecast

Table 3--Banks' share of farm business debt is expected to pass 40 percent in 1995

Lender	1984	1986	1989	1993	1994P	1995F
	Percent					
Real estate	100.0	100.0	100.0	100.0	100.0	100.0
Farm Credit System	43.7	39.4	35.4	32.7	32.1	31.7
Consolidated Farm Service Agency ^{1/}	8.9	10.7	10.8	7.7	7.1	6.3
Life insurance companies	11.1	11.5	12.0	11.8	11.3	11.2
Commercial banks	9.0	13.2	20.6	25.8	27.4	28.4
CCC storage facility	0.6	0.1	0.0	0.0	0.0	0.0
Individuals & others	26.7	25.1	21.2	22.0	22.2	22.4
Nonreal estate	100.0	100.0	100.0	100.0	100.0	100.0
Commercial banks	43.2	44.6	47.3	53.0	53.2	53.9
Farm Credit System	20.8	15.5	15.4	16.0	16.2	16.1
Consolidated Farm Service Agency	15.8	21.7	17.5	9.5	8.7	7.8
Individuals & others	20.3	18.2	19.8	21.6	22.0	22.1
Total debt	100.0	100.0	100.0	100.0	100.0	100.0
Farm Credit System	33.4	29.2	26.4	25.0	24.6	24.2
Consolidated Farm Service Agency	12.0	15.4	13.8	8.5	7.9	7.0
Life insurance companies	6.1	6.6	6.6	6.3	6.0	5.8
Commercial banks	24.4	26.5	32.6	38.4	39.5	40.7
CCC storage facility	0.3	0.1	0.0	0.0	0.0	0.0
Individuals & others	23.8	22.2	20.5	21.8	22.1	22.3

Market shares of farm business debt outstanding as of December 31. ^{1/} Formerly Farmers Home Administration
P = Projected, F = Forecast

Table 4--Farm financial performance measures^{1/}

Item	1980-84	1985-86	1993	1994F	1995F
	Percent				
Profitability:					
Return on equity	0.1	1.9	2.1	3.2	2 to 3
Liquidity:					
Debt servicing ratio	27	24	14	14	13 to 14
Solvency:					
Debt-to-asset	19.7	22.3	16.0	16	15 to 17

F = forecast

1/ Excludes operator households.

Economic Growth Slow Throughout 1995

In 1995 farmers may benefit from lower interest rates while a weaker dollar compared with Japanese and European currencies could boost farm exports. However, exports to Mexico will decline due to the reduced value of the Mexican peso.

The rate of economic growth has slowed significantly in the first half of 1995. Real GDP, which grew at an annual rate of 4.6 percent in the second half of 1994, grew at an annual rate of 2.7 percent in the first quarter. However, reports indicate economic growth slowed significantly in the second quarter. Total nonagricultural employment and industrial production fell in April and May. Real personal consumption expenditures fell slightly in April after increasing at a 1.8-percent rate in the first quarter of 1995. Business firms are adding to inventory more cautiously than in recent quarters, further slowing economic growth.

However, the U.S. economy is not expected to fall into a recession. Economic growth is expected to improve in the second half of 1995 and 1996 due to a number of factors. First, long-term interest rates in the general economy have fallen roughly 150 basis points since late November. Lower long-term interest rates improve the intermediate term outlook for business fixed investment, consumer durable purchases, and, especially, residential construction.

Second, the large overall fall in the value of the dollar thus far in 1995, particularly against the yen and the mark, coupled with stronger overall growth in the rest of the world in 1995 and 1996, should expand demand for U.S. exports. Third, nonfinancial firms remain very healthy in terms of profitability and relatively low debt burdens, while bank profitability is at record levels and bank liquidity is very high. Therefore, ample credit is available for borrowers, unlike the late 1980's and early 1990's.

Fourth, business inventories relative to sales remain low, thus the current reduction in desired inventory growth in reaction to recent slower economic growth should be mild. Fifth, inflation remains low, thus improving the outlook for business investment and consumer spending.

Farm Interest Rates Likely To Decrease Later in 1995

Farm loan rates at commercial banks are expected to stabilize in 1995 and 1996. Agricultural loan rates at commercial banks moved sharply higher in 1994 and early 1995. Slower economic growth, as well as only a slight increase in inflation thus far in 1995, has stabilized short-term rates in the general economy and generated a roughly 150-basis-point fall in long-term Treasury bond yields. Overall slower economic growth and continued low inflation in 1995 are likely to generate a mild easing of monetary policy in the second half of 1995.

Movements in nonreal estate farm loan rates at large banks are expected to closely follow movements of rates in national money markets. Small banks, on the other hand, give greater weight to their average cost of funds in determining lending rates, and are more dependent upon local small time deposits for funds than large banks. Small bank farm loan rates will be under upward pressure in 1995 from the "rolling over" (at higher interest rates) of small time deposits originally issued in the very low interest rate period of 1992-94. Farm real estate loan rates are expected to decline slightly for the remainder of 1995 and 1996, barring any significant unforeseen shocks to money and capital markets.

Weak Dollar Boosts Farm Exports

Farmers are also expected to benefit from the overall lower value of the dollar, which improves the outlook for agricultural exports. A lower dollar normally reduces the foreign price of U.S. exports abroad. However, agricultural exports to Mexico will be hurt by the large devaluation of the peso relative to the U.S. dollar thus far in 1995 and the Mexican recession. Nonetheless, fiscal 1995 agricultural exports are expected to total \$51.5 billion, up from \$43.5 in 1994.

Sources of Federal Farm Income Estimates

Robert Hoppe¹

Abstract: Several federal agencies estimate farm income, and the size of these estimates varies from source to source. No single source of farm income data answers all questions. Economic data sources and their associated income estimates are always targeted at specific questions. Which income estimate should be used depends upon the topic being analyzed. Choice of the appropriate income data is critical in farm policy debates.

Key words: Farm income estimates, farm bill.

Introduction

Every 5 years, the Administration and Congress reformulate agricultural policy through a new farm bill. This process has been taking place regularly since the early 1940's. The 1995 farm bill debates are underway and promise to challenge the rationale and scope of agricultural policy. The overwhelming factor will be farm programs' contribution to the size of the budget. In many of the debates about major changes to farm policy, impacts on the income of farmers are at issue.

Unfortunately, there is no universal source of farm income data that answers all questions. Economic data sources and their associated income estimates are always targeted at specific questions. Which data source should be used depends upon the topic being analyzed. This article outlines sources of farm income data and explains why they yield different income estimates. It also summarizes when different sources of income data should be used. Choosing the appropriate data is critical in farm policy discussions.

Several Federal agencies produce farm income estimates. Agencies develop separate data series to analyze different farm income topics, including:

- the income of the production agriculture sector as a whole,
- farm business income,
- farm operator household income,
- the contribution of farming to personal income, and
- farmers' taxable income.

Aggregate income estimates from various sources are arranged by topic and presented in table 1. The Federal agency responsible for each estimate, the farm income definition used, and whose shares of farm income are included in the estimate are also identified. Several populations--farm operators, partners, nonfarm landlords, nonfarm contractors, and corporate shareholders--share in the

income from farming, but inclusion of the various populations' shares varies among the estimates.

Except for nonfarm contractors, the groups sharing in farm income or output are self-explanatory. Contractors make two types of contractual agreements with farms: production and marketing contracts (U.S. Dept. Ag., Nat. Ag. Stat. Serv., 1994, p. C5044). Under production contracts, the contractor owns the commodity while it is being produced, provides most inputs, and pays the farm a fee for its services. Under marketing contracts, the contractor agrees to have a specific quantity of a commodity produced at a negotiated price, but the farm owns the commodity while it is being produced and provides most of the inputs required.

Some of the estimates in the table have become the standard income data for particular purposes. For example, data from the Economic Research Service's (ERS) Economic Indicators of the Farm Sector (ECIFS) are the standard for measuring the economic well-being of the production agriculture sector. As another example, the Census Bureau's Current Population Survey (CPS) is the source of official U.S. estimates of household income, family income, and poverty.

Size of the Estimates

Estimates of aggregate farm income varied widely in 1992, ranging from -\$2.5 billion for the Internal Revenue Service's (IRS) Statistics of Income (SOI) to \$57.4 billion for net cash income from ECIFS (table 1). The estimates differ largely because of variations in the definition of farm income and variation in the populations whose shares are included. And, respondents to surveys may underreport income, which would result in smaller estimates--other things being equal--than estimates relying on administrative data.

IRS data provide the best example of how definitions and population coverage affect estimate size. The IRS uses a very restricted definition of income, the profit or loss reported on schedule F of the 1040 tax form. This definition depends on the tax codes; it was not designed as a

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comprehensive measure of farm income. Schedule F filers also have a financial incentive to report as little income as possible. In addition, the schedule F data include only the shares of operators and some landlords. Not surprisingly, the IRS estimate is the lowest in the table.

Which Definition and Populations?

Which income definition should be used depends on the question being asked. For example, net profit and loss, as defined by the IRS, is an appropriate definition for examining tax policy and for answering questions where taxable income is relevant. It is less appropriate when trying to form a picture of the entire production agriculture sector.

As another example, farm operator household income from the Farm Costs and Returns Survey (FCRS) is defined to be consistent with the money income concept used in the CPS, so that operator household income from the FCRS can be compared with average U.S. household income. Household income could be defined differently when using the FCRS for other purposes. But, data from the FCRS and CPS would no longer be comparable.

The appropriate sharing populations will also vary. The general public generally uses the term "farmer" to mean the people who actually run the farm businesses, regardless of legal organization. This population is most closely approximated by the farm business income estimate provided by the FCRS. The FCRS household income estimate is slightly more restrictive, focusing on operators' households.

But, nonfarm contractors and landlords also contribute factors of production and are included in the Census of Agriculture and ECIFS.² Any picture of the production agriculture sector as a whole must include their income shares.

Which population should be examined depends on whether the analyst is interested in the farm business, the farm operator household, or the production agriculture sector. The three populations are not identical, and any of the three populations may be appropriate, given the question at hand. ERS is mandated to provide income estimates for all three populations.

Reconciliation

Income estimates from various sources can often be reconciled when definitions and populations are adjusted to be more similar. Reconciliation serves as a useful check on the data sources being compared. Even if full reconciliation is not possible, detailed comparisons of income estimates

from different sources help us understand the data sources compared.

Several Federal agencies have attempted to reconcile different data sources. For example, ERS has developed a reconciliation of farm operator household income from the FCRS with net cash income from ECIFS (U.S. Dept. Agr., Econ. Res. Serv., 1993a). A recent ERS paper explained differences between FCRS farm operator household income and CPS farm self-employment income (Hoppe, 1994). BEA can explain the differences between ECIFS net farm income and BEA earnings from farming, because the Bureau uses adjusted ECIFS data to make its estimates (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M17). A recent GAO study explained much of the difference between ECIFS net farm income and IRS net profit or loss (U.S. Gen. Acc. Off., 1993; U.S. Dept. Agr., Econ. Res. Serv., 1993b).

The Estimates in Detail

A detailed description of each estimate follows. As will be shown, the definition of income and the explanation of whose shares are included can be complex.

Income of the Sector

To describe the income of the production agriculture sector, an estimate must cover all the factors of production involved in farming. The income of operators, partners, shareholders, nonfarm landlords, and nonfarm contractors must all be included. All farm businesses must be included, regardless of legal organization. The criteria for sector income measurement are established by the needs of national income and product accounting.

U.S. Bureau of the Census, Census of Agriculture. The Census Bureau conducts a census of all U.S. farms every 5 years (U.S. Dept. Comm, Bur. Cen, 1994, p. vii). Data are published at the national, regional, State, and county level.

Population Covered. Farms. According to the current definition, a farm is "any place from which \$1,000 or more of agricultural products were produced and sold, or normally would have been sold (U.S. Dept. Comm, Bur. Cen, 1994, p. vii)." All farms are included, regardless of legal organization.

Definition of Farm Income. Net cash return from agricultural sales for the farm unit (U.S. Dept. Comm, Bur. Cen, 1994 p. A8). Net cash return is calculated as gross market value of agricultural products sold minus operating expenditures. Market value of products sold includes gross Commodity Credit Corporation (CCC) loans made during the Census year, but excludes Government payments and income from farm-related sources such as custom work (U.S. Dept. Comm, Bur. Cen, 1994, p. A8). No adjustments are made for capital replacement and change in inventory values (U.S.

² ECIFS excludes the shares of nonfarm landlords.

Dept. Comm, Bur. Cen, 1994, p. A8). Market value of products sold and production expenses include the shares of partners, nonfarm landlords, and nonfarm contractors, when known.

Economic Research Service (ERS), Economic Indicators of the Farm Sector (ECIFS). ERS produces annual income estimates for the farm sector, at the national and State level, using a variety of data sources (U.S. Dept. Agr., Econ. Res. Serv., 1994, pp. 6-7). The National Agricultural Statistics Service (NASS) provides production, price, and other data, which are used to estimate cash receipts, and information about inventory changes. The Consolidated Farm Service Agency supplies information on direct payments and CCC loans. The FCRS provides data on production expenses and miscellaneous sources of income. Data from private industry and other Government agencies, however, are also used to estimate production expenses. NASS and ERS personnel establish ECIFS expense and income estimates.

Population Covered. Farm operations, defined the same as farms in the Census of Agriculture (U.S. Dept. Agr., Econ. Res. Serv., 1994, p. 1). All farms are included, regardless of legal organization.

Definition of Farm Income. Two net income concepts are used (U.S. Dept. Agr., Econ. Res. Serv., 1994, pp. 3-5):

Net farm income. Calculated as all farm income minus all farm expenses. Income includes sales of commodities, direct Government payments, net CCC loans, other cash farm-related income, home consumption of farm products, and imputed rental value of farm dwellings. Income is adjusted for changes in inventories. In addition to cash expenses, expenses include in-kind benefits paid to labor and capital consumption (which includes depreciation and accidental damage).

Net cash income. Calculated as above, except for the omission of noncash items (home consumption, imputed rent, change in inventories, in-kind benefits to labor, and capital consumption).

Regardless of income concept, income and expense estimates include the shares of owner-operators, partners, tenant-operators, shareholders, and nonfarm contractors (U.S. Dept. Agr., Econ. Res. Serv., 1994, p. 1). Anyone who shares in the risks of production is included, with one exception. The shares of operator landlords are included, but the shares of nonfarm landlords are excluded.

Farm Business Income

The ECIFS and Census of Agriculture describe the whole sector, including operators, partners, landlords, and contractors. Anyone analyzing farming, however, needs

detailed financial information about farming operations at the firm level.

ERS and National Agricultural Statistics Service (NASS), Farm Costs and Returns Survey (FCRS). FCRS annually collects detailed production, expense, and household data directly from farm operators. The sample is generally large enough to generate regional data.

Population Covered. Farm businesses (Morehart et al., 1992, p. 22), defined the same as farms in the Census of Agriculture and farm operations in the ECIFS, with one exception: Unlike the Census and ECIFS, nonfarm contractors are excluded because they are employers of the farm business. As in the ECIFS, nonfarm landlords are excluded. All farm operations are included, regardless of legal organization. The focus of the FCRS is the farm as a business.

Definition of Farm Income. Both net farm income and net cash income can be calculated for all farm businesses in the survey, using concepts that are consistent with recommendations of the Farm Financial Standards Task Force.³ Data on wages and benefits (both in-kind and cash) paid to hired workers are also collected by the survey.

Household Income

The farm operator household plays an important role by providing management, labor, and resources to the farm business. In turn, the farm provides income to the farm operator household. But, because most farm operator households receive off-farm income, both farm and off-farm income must be considered when measuring economic well-being. Surveys collecting detailed household income data complete the economic picture of farm operator households.

Bureau of the Census, Current Population Survey (CPS). The CPS is a monthly household survey that primarily collects labor force data (U.S. Dept. Comm., 1995, pp. E1-E2). The Census Bureau also generates household, family, and personal income data from the March CPS. The CPS files have a variable identifying States, but the number of sample observations involved in farming is too small to provide much geographic detail in estimates of farm income.

The CPS arose out of efforts by the Works Projects Administration (WPA) to estimate unemployment in the late 1930's (Hanson, 1978, p. 2; Bregger and Dippo, 1993, pp. 3-4). The CPS has long been the source of official U.S. statistics on unemployment, household and family income, and poverty.

³ The task force, sponsored by the American Bankers Association, spent 2 years preparing standards for farm financial reports (Casler, 1993, pp. 271-272). It had 50 members from academia, financial institutions, and other organizations.

Population Covered. Civilian noninstitutional population, plus members of the military in the United States living off-post or living on-post with their families (U.S. Dept. Comm., 1995, p. A2).

General Definition of Income. Money income from all sources, including earnings from jobs or self-employment, cash transfer payments, property income, alimony, child support, and other cash income. No in-kind items are included (U.S. Dept. Comm., 1995, pp. A1-A2). Household income includes all money income received by all members of the household.

Definition of Farm Income. The Census Bureau defines farm (and nonfarm) self-employment income as gross cash receipts minus gross cash operating expenses (U.S. Dept. Comm., 1992, pp. C2-C3). The Bureau departs from a strictly cash concept by including depreciation as an operating expense. Generally, inventory changes are not taken into account.

Respondents report farm self-employment income as a single number. How respondents actually calculate farm self-employment income is unknown, because none of the components of farm self-employment income are reported separately. Landlord and contractor shares of income and expenses are not discussed in the documentation. Therefore, the extent to which the CPS includes nonfarm landlord and contractor shares is unknown. No information about the farm is collected.

The CPS does not report annual farm wage and salary income, but people whose occupation is hired farm manager or farm worker can be identified. Their wage and salary income is likely to be, at least in part, from farming.

ERS and National Agricultural Statistics Service (NASS), Farm Costs and Returns Survey (FCRS). In addition to detailed farm business data, the FCRS also collects data about the senior farm operator's household.

Population Covered. Households operating farm businesses. The FCRS collects information about the household of the senior, or primary operator of a surveyed farm. When management is shared equally among two or more operators, the oldest operator is designated as the senior operator.

The number of farm operator households is about 1 percent smaller than the number of farm businesses (Ahearn et al., 1993, p. 2). The FCRS household data exclude farms organized as nonfamily corporations or cooperatives and farms run by hired managers. The farm operator household concept is not relevant for the small number of farm businesses not closely held by the farm operator and the farm operator household.

Definition of Farm Income. Using the FCRS, ERS estimates household income for senior farm operator households to

compare with U.S. household money income from the CPS. The agency estimates income from both farm-related and off-farm sources. The FCRS estimate of farm-related household income is based on net cash farm income minus depreciation, to be consistent with the money income definition used in the CPS. Another definition based on net farm income could be developed. This definition, however, would result in data that are not comparable with the CPS.

Contribution to Personal Income

Farming is part of the larger economy. One way to measure farming's place in the economy is to estimate farming's contribution to personal income.

Bureau of Economic Analysis (BEA), Personal Income. BEA makes annual estimates of earned income by industry (including farming) and total personal income. Estimates are made at the national, State, and county level. Definitions underlying the State and county estimates are largely the same as those underlying the corresponding national estimates in the National Income and Product Accounts (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M5). BEA also provides estimates of employment and population by county, making it possible to calculate earnings per worker and per capita personal income for each county.

BEA relies on data collected by other agencies and organizations to make its estimates of local area personal income (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M6). About 90 percent of personal income is estimated from administrative records and censuses.

Population Covered. All persons, defined as "individuals, nonprofit institutions that serve individuals, private noninsured welfare funds, and private trust funds (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M5)."

General Definition of Income. Personal income, which consists of wages and salaries, other labor income, proprietors' net income, property income of persons, and transfer payments, minus personal contributions to social insurance (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M5). The term "proprietors" includes sole proprietors, partners, and tax-exempt cooperatives (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M15). Both cash and in-kind items are included in measuring personal income. Earned income, or earnings, consists of wages and salaries, other labor income, and proprietors' net income (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M39).

Definition of Farm Income. Farm earned income, which includes farm proprietors' income, farm wage and salary income, and other labor income paid to farm wage and salary workers.

The income of farm proprietors is defined as farm gross receipts less production expenses (including depreciation),

with a change-in-inventory adjustment to reflect current production (U.S. Dept. Comm., Bur. Econ. Anal., 1994, pp. M17-M19). Income of corporate farms and salaries paid to corporate officers are excluded from farm proprietors' income. Farm proprietors' income includes the value of home consumption and the gross rental value of farm dwellings. BEA adjusts ECIFS State estimates and uses them as control totals for its county estimates.

The USDA includes operator landlord and nonfarm contractor shares in the gross cash receipts data provided to BEA, but BEA deducts only the landlord share when making its estimates. Therefore, BEA includes the nonfarm contractor share in its estimates.

Farm wage and salary personal income includes cash and in-kind compensation for hired labor and the salaries of corporate officers (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M11). Other labor income is largely employer contributions to private pension and welfare funds (U.S. Dept. Comm., Bur. Econ. Anal., 1994, p. M13).

Taxable Income

Not surprisingly, the Internal Revenue Service has become the main source of information on farmers' taxable income.

Internal Revenue Service (IRS), Statistics of Income (SOI). The IRS produces statistical publications based on the tax forms it receives. Most data are based on a sample of filings (U.S. Dept. Treas., 1994-95, p. 239). The amount of farm income data published has decreased in recent years, and no State-level data are published for farm income. However, State statistics for farm income can be produced from the public use file.

Population Covered. Filers of individual income tax forms.

General Definition of Income. Taxable income. (See instructions for various tax forms.)

Definition of Farm Income. Most commonly, net farm profit or loss reported on Form 1040 from Schedule F. Net profit or loss is calculated as farm income from various sources, minus farm expenses, including depreciation. Only sole proprietorships are represented. Each Schedule F filer has the option of using cash or accrual accounting. Income excludes home consumption of commodities and imputed rent of operator dwellings. Contractor shares are excluded from Schedule F. Landlords who actively participate in the farm file a schedule F, but landlords who only collect rent do not. Farm-related data are restricted to items collected on Schedule F.

Which Source Is Preferred?

There is no universal source of farm income data that answers all questions. Economic data sources and income estimates are always targeted at specific questions. Which data source should be used depends upon the topic being analyzed:

- For analyzing the income of the farm sector as a whole:
The Census of Agriculture and ECIFS.
- For analyzing the income of farm businesses, the income of farm operator households, and the economic relationships between the two:
FCRS, or other farm-level data sources.
- For analyzing farming's contribution to total earnings, particularly at the local level:
BEA personal income.
- For analyzing tax policy and for questions where taxable income is relevant:
IRS SOI.
- For identifying households receiving farm self-employment income, even though they do not live in a farm operator household, and receive only a small income from farming:
CPS data.

These topics have all been discussed in previous farm bill debates. They will be discussed again in present and future debates.

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Table S-1. Selected sources of federal farm income estimates, by purpose, 1992

Purpose and source	Responsible agency	Farm income definition	Shares included 1/	Aggregate income	Weighted number of cases
				Million dollars	Number
INCOME OF THE SECTOR Census of Agriculture Economic Indicators of the Farm Sector	Bureau of the Census Economic Research Service	Net cash return from sales Net farm income Net cash income	O, P, L, C, S O, P, C, S 2/ O, P, C, S 2/	30,421.7 50,074.0 57,389.0	1,925,280 farms 2,094,000 farm operations 2,094,000 farm operations
FARM BUSINESSES INCOME Farm Costs and Returns Survey	Economic Research Service	Net farm income Net cash income	O, P, S 3/ O, P, S 3/	28,251.6 25,214.4	2,090,700 farm businesses 2,090,700 farm businesses
FARM OPERATOR HOUSEHOLD INCOME Current Population Survey Farm Costs and Returns Survey	Bureau of the Census Economic Research Service	Farm self-employment income Farm-related household income 4/ O 5/	Unknown	15,393.4 14,877.3	1,447,130 households reporting farm self-employment income 2,071,948 senior operator households
CONTRIBUTION TO PERSONAL INCOME Local Area Personal Income	Bureau of Economic Analysis	Earnings	O, P, C	38,184.7	2,171,987 Proprietors and partners
TAXABLE INCOME Statistics of Income	Internal Revenue Service	Net profit or loss	O, L 6/	(2,536.0)	2,288,218 individual Schedule F's

Note: All estimates are produced annually, except those from the Census of Agriculture, which are produced every 5 years. Therefore, 1992 data selected for examination because it is the most recent year for which Census of Agriculture data were available.

1/O=Operators. P=Partners. L=Nonfarm Landlords. C=Nonfarm Contractors. S=Shareholders.

2/Includes anyone sharing the risks of production (operators, partners, contractors, and shareholders). Also includes operator landlords, but not other landlords.

3/Includes only those with ownership in the farm business (owner-operators, partners, and shareholders). Also includes operator landlords and operator contractors.

4/Includes farm self-employment income, cash rent from renting out farmland, and wages and salaries paid to household members by farm business.

5/Includes operator landlords and operator contractors.

6/Landlords who actively participate in the farm file schedule F, but landlords who only collect rent do not.

Appendix table 1--Farm income statements, 1990-95

Item	1990	1991	1992	1993	1994F	1995F
Billion dollars						
Cash income:						
1. Cash receipts	170.0	168.8	171.2	175.1	179.9	176 to 184
Crops 1/	80.1	82.1	84.9	84.5	91.6	91 to 95
Livestock	89.8	86.7	86.3	90.6	88.3	85 to 89
2. Direct Government payments	9.3	8.2	9.2	13.4	7.8	6 to 8
3. Farm-related income 2/	7.6	7.8	7.8	8.8	10.8	11 to 13
4. Gross cash income (1+2+3)	186.8	184.9	188.2	197.2	198.5	195 to 203
5. Cash expenses 3/	131.8	131.7	130.8	138.7	144.6	142 to 150
6. NET CASH INCOME (4-5)	55.1	53.2	57.4	58.5	53.9	48 to 58
Deflated (1987\$) 4/	48.6	45.2	47.5	47.4	42.7	37 to 45
Farm income:						
7. Gross cash income (1+2+3)	186.8	184.9	188.2	197.2	198.5	195 to 203
8. Nonmoney income 5/	8.0	7.7	7.8	7.9	8.1	7 to 9
9. Inventory adjustment	3.4	-0.3	4.3	-3.6	7.1	0 to 4
10. Total gross income (7+8+9)	198.2	192.3	200.2	201.4	213.7	205 to 213
11. Total expenses	151.3	151.2	150.1	158.0	164.0	162 to 170
12. NET FARM INCOME (10-11)	46.9	41.1	50.1	43.4	49.7	38 to 48
Deflated (1987\$) 4/	41.4	34.9	41.4	35.1	39.4	29 to 37

F = forecast. Totals may not add due to rounding.

1/ Includes CCC loans.

2/ Income from machine hire and customwork, forest product sales, custom feeding service fees, and other farm sources.

3/ Excludes expenses for onfarm operator dwellings and noncash items such as capital consumption and perquisites to hired labor.

4/ Deflated by the GDP implicit price deflator.

5/ Includes the value of home consumption of farm products plus imputed rental value of operator dwellings.

Appendix table 2--Average income to farm operator households, 1990-95 1/

Item	1990	1991	1992	1993	1994F	1995F
Dollars per operator household						
Farm operator household income	39,007	37,447	42,911	40,223	42,011	40,600 to 45,600
Farm income 2/ & 3/	5,742	5,810	7,180	4,815	5,328	3,600 to 6,600
Self-employment	4,973	4,458	5,172	3,623	n/a	n/a
Other	768	1,352	2,008	1,192	n/a	n/a
Off-farm income	33,265	31,638	35,731	35,408	36,683	37,000 to 39,000
Wages, salaries, and non-farm businesses	24,778	23,551	27,022	25,215	n/a	n/a
Interest, dividends, transfer payments, etc.	8,487	8,087	8,709	10,194	n/a	n/a

F = forecast. n/a = not available. Totals may not add due to rounding.

1/ Data for 1990 are expanded to represent the farm operator households surveyed in the Farm Costs and Returns Survey. Data for 1991-93 are expanded to represent the number of U.S. farms and ranches.

2/ Includes self-employment income, wages that operators pay themselves and family members to work on the farm, income from renting farmland, and net income from another farm business.

3/ If the additional 350,000 small farms included in the 1991 analysis were included in the 1990 analysis, the 1990 farm income to the household would be approximately \$4,600.

Appendix table 3--Relationship of net cash to net farm income, 1990-95

Item	1990	1991	1992	1993	1994F	1995F
Billion Dollars						
Gross cash income	186.8	184.9	188.2	197.2	198.5	195 to 203
Minus cash expenses	130.9	131.7	130.8	138.7	144.6	142 to 150
Equals net cash income	55.7	53.2	57.4	58.5	53.9	48 to 58
Plus nonmoney income 1/	6.2	7.7	7.8	7.9	8.1	7 to 9
Plus value of inventory change	3.4	-0.3	4.3	-3.6	7.1	0 to 4
Minus noncash expenses	15.4	15.4	15.2	15.3	15.3	15 to 17
Labor perquisites	0.5	0.6	0.5	0.4	0.5	0 to 1
Net capital consumption	14.9	14.9	14.7	14.9	14.8	14 to 16
Capital consumption exc. dwellings	16.3	16.3	16.1	16.3	16.3	16 to 18
- Landlord capital consumption	1.4	1.4	1.4	1.4	1.4	0 to 2
Minus operator dwelling expenses	4.1	4.0	4.1	4.0	4.1	3 to 5
Capital consumption	2.0	1.9	2.2	2.1	2.2	1 to 3
Interest	0.6	0.7	0.6	0.5	0.6	0 to 2
Property taxes	0.6	0.6	0.6	0.7	0.7	0 to 2
Repair and maintenance	0.6	0.7	0.6	0.5	0.5	0 to 1
Miscellaneous	0.2	0.2	0.2	0.2	0.2	0 to 1
Equals net farm income	46.9	41.1	50.1	43.4	49.7	38 to 48

F = forecast.

1/ The value of home consumption and gross rental value of all dwellings.

Appendix table 4--Cash receipts, 1990-95

Item	1990	1991	1992	1993	1994F	1995F
Billion dollars						
Crop receipts 1/	80.1	82.1	84.9	84.5	91.6	91 to 95
Food grains	7.5	7.4	8.5	8.2	9.5	8 to 10
Wheat	6.4	6.3	7.2	7.4	7.8	7 to 9
Rice	1.1	1.1	1.2	0.8	1.7	1 to 2
Feed grains and hay	18.7	19.5	19.8	19.3	20.6	20 to 24
Corn	13.3	14.4	14.5	14.0	14.9	15 to 17
Sorghum, barley, and oats	2.0	2.1	2.3	2.1	1.9	1 to 3
Oil crops	12.3	12.7	13.3	13.0	15.2	13 to 15
Soybeans	10.8	11.0	11.6	11.6	13.4	12 to 14
Peanuts	1.3	1.4	1.3	1.0	1.2	1 to 2
Cotton lint and seed	5.5	5.2	5.2	5.0	5.6	6 to 8
Tobacco	2.7	2.9	3.0	2.9	2.7	2 to 4
Fruits and nuts	9.4	9.8	10.1	9.9	10.0	9 to 11
Vegetables	11.6	11.6	11.8	12.7	12.9	12 to 14
Greenhouse & nursery	8.5	8.9	9.1	9.3	10.3	10 to 11
Livestock receipts 2/	89.8	86.7	86.3	90.6	88.3	85 to 89
Red meats	51.9	51.1	48.4	51.4	46.8	42 to 50
Cattle and calves	39.9	39.6	37.9	40.0	36.4	33 to 38
Hogs	11.6	11.0	10.1	10.9	9.9	9 to 10
Sheep and lambs	0.4	0.4	0.5	0.5	0.5	0 to 1
Poultry and eggs	15.2	15.1	15.5	17.2	18.4	17 to 21
Broilers	8.4	8.4	9.2	10.4	11.4	11 to 13
Turkeys	2.4	2.3	2.3	2.4	2.7	2 to 3
Eggs	4.0	3.9	3.4	3.8	3.8	3 to 5
Dairy products	20.1	18.0	19.8	19.3	19.9	18 to 21
TOTAL RECEIPTS	170.0	168.8	171.2	175.1	179.9	176 to 184

F = forecast. * = less than \$500 million. Totals may not add due to rounding.

1/ Includes sugar, seed, and other miscellaneous crops. 2/ Includes miscellaneous livestock and livestock products.

Appendix table 5--Farm production expenses, 1990-95

Item	1990	1991	1992	1993	1994F	1995F
Billion dollars						
Farm-origin						
Feed purchased	39.7	38.7	38.9	41.5	42.0	39 to 43
Livestock and poultry purchased	20.4	19.3	20.1	21.4	23.0	21 to 25
Seed purchased	14.8	14.3	13.9	14.9	13.8	11 to 15
	4.5	5.1	4.9	5.2	5.3	4 to 6
Manufactured inputs						
Fertilizer and lime	22.0	23.2	22.7	23.2	24.0	23 to 27
Pesticides	8.2	8.7	8.3	8.4	9.1	9 to 11
Fuels and oils	5.4	6.3	6.5	6.7	7.0	6 to 8
Electricity	5.8	5.6	5.3	5.4	5.4	4 to 7
	2.6	2.6	2.6	2.7	2.4	2 to 4
Interest						
Nonreal estate	13.4	12.1	11.2	10.8	11.5	11 to 15
Real estate	6.7	6.0	5.4	5.3	5.8	5 to 8
	6.7	6.1	5.8	5.5	5.7	5 to 7
Other operating expenses						
Repair and maintenance	43.1	44.4	43.7	48.3	50.6	48 to 54
Machine hire and customwork	8.6	8.6	8.5	9.2	9.0	8 to 10
Marketing, storage & transportation	3.5	3.5	3.8	4.4	4.5	3 to 5
Labor	4.2	4.7	4.5	5.6	6.2	5 to 7
Miscellaneous	14.1	14.0	14.0	15.0	15.3	13 to 17
	12.7	13.7	13.1	14.2	15.6	14 to 18
Other overhead expenses						
Capital consumption	33.0	32.8	33.7	34.4	35.9	35 to 38
Property taxes	18.2	18.2	18.3	18.4	18.4	17 to 21
Net rent to nonoperator landlords	5.7	5.6	5.8	6.3	6.5	6 to 8
	9.0	8.9	9.5	9.6	11.0	10 to 12
Total production expenses	151.3	151.2	150.1	158.0	164.0	162 to 170
Noncash expenses						
Labor perquisites	15.4	15.4	15.2	15.3	15.3	15 to 17
Net capital consumption	.5	.6	.5	.4	0.5	0 to 1
Capital consumption exc. dwellings	14.9	14.9	14.7	14.9	14.8	14 to 16
- Landlord capital consumption	16.3	16.3	16.1	16.3	16.3	16 to 18
	1.4	1.4	1.4	1.4	1.4	0 to 2
Operator dwelling expenses						
Capital consumption	4.1	4.0	4.1	4.0	4.1	3 to 5
Interest	2.0	1.9	2.2	2.1	2.2	1 to 3
Property taxes	.6	.7	.6	.5	0.6	0 to 2
Repair and maintenance	.6	.6	.6	.7	0.7	0 to 2
Miscellaneous	.6	.7	.6	.5	0.5	0 to 1
	.2	.2	.2	.2	0.2	0 to 1
Cash expenses 1/	131.8	131.7	130.8	138.7	144.6	142 to 150

F = forecast.

1/ Total production expenses minus noncash and onfarm operator dwelling expenses.

Appendix table 6--Farm income distribution by selected enterprise type, 1992-95 1/

Item	Crops				Livestock			
	Total	Cash grain 2/	Cotton	Fruit/nut/vegetable	Total	Red meat	Poultry	Dairy
Cash receipts--								Billion dollars
Crops								
1992	78.9	31.4	4.2	19.6	6.0	4.5	0.2	0.9
1993	73.2	20.5	2.1	21.2	11.3	7.4	0.5	2.6
1994F	81.4	33.3	5.0	21.4	10.2	8.3	*	1.0
1995F	82.9	33.2	5.6	21.7	10.4	8.3	*	1.0
Livestock								
1992	6.0	4.3	0.1	0.2	80.4	40.0	15.6	21.9
1993	4.2	2.7	0.1	0.1	86.4	43.8	17.3	22.2
1994F	6.0	4.2	*	*	82.2	38.7	18.3	24.7
1995F	5.5	3.9	*	*	81.4	37.8	18.5	24.2
Direct Government Payments								
1992	6.7	4.8	0.8	0.2	2.5	1.8	0.0	0.5
1993	9.4	6.8	1.2	0.2	4.0	3.0	0.0	0.7
1994F	5.6	3.7	*	*	2.3	1.8	*	*
1995F	4.9	3.1	*	*	2.2	1.8	*	*
Gross cash income-- 3/								
1992	94.9	42.4	5.3	20.3	93.3	48.4	17.5	23.6
1993	92.1	32.4	3.8	22.6	105.1	56.2	18.7	25.9
1994F	100.9	43.6	5.7	22.3	97.6	52.2	18.6	26.9
1995F	101.7	42.8	6.5	22.6	97.0	51.5	18.8	26.5
Cash expenses--								
1992	62.7	29.7	3.5	11.8	68.1	37.3	9.3	17.9
1993	62.7	26.7	3.5	13.6	76.0	44.9	9.3	19.2
1994F	68.8	31.7	4.4	13.7	75.8	45.7	10.7	20.8
1995F	69.4	32.2	4.4	13.8	76.5	45.8	10.6	21.0
Net cash income--								
Current dollars 4/								
1992	32.1	12.7	1.8	8.5	25.2	11.1	8.2	5.7
1993	29.4	5.7	0.3	8.9	29.1	11.3	9.5	6.7
1994F	32.2	12.0	1.4	8.6	21.7	6.6	7.9	6.1
1995F	32.5	10.6	2.0	8.8	20.2	5.6	8.1	5.6
Deflated (\$1987)								
1992	26.6	10.5	1.5	7.0	20.8	9.2	6.8	4.7
1993	23.8	4.6	0.2	7.2	23.6	9.1	7.7	5.4
1994F	25.5	9.5	1.1	6.8	17.2	5.2	6.3	4.8
1995F	25.2	8.2	1.6	6.8	15.7	4.3	6.3	4.3

F = forecast. * = less than \$500 million. Numbers are rounded.

1/ Farm types are defined as those with 50 percent or more of the value of production accounted for by a specific commodity or commodity group.

2/ Includes farms earning at least half their receipts from sales of wheat, corn, soybean, rice, sorghum, barley, oats, or a mix of cash grains.

3/ Cash receipts plus Government payments plus farm-related income.

4/ Gross cash income minus cash expenses.

Appendix table 7--Value added by the agricultural sector, 1990-95 1/

Item	1990	1991	1992	1993	1994F	1995F
Billion dollars						
Crop output	83.1	82.1	88.6	84.2	97.4	90 to 98
Cash receipts	80.1	82.1	84.9	84.5	91.6	91 to 95
Home consumption	0.1	0.1	0.1	0.1	0.1	0 to 1
Value of inventory adjustment	2.9	-0.1	3.6	3.7	5.7	0 to 1
Livestock and poultry output	90.3	87.9	87.5	92.0	90.0	85 to 93
Cash receipts	89.3	86.7	86.4	91.0	88.3	85 to 89
Home consumption	0.5	0.5	0.5	0.5	0.4	0 to 1
Value of inventory adjustment	0.5	0.7	0.6	0.5	1.4	0 to 2
Farm-related income	7.6	7.8	7.8	8.8	10.8	11 to 13
Gross rental value of farm dwellings	7.3	7.1	7.2	7.3	7.6	7 to 9
Equal: Agricultural sector output	188.9	184.1	191.0	188.0	205.8	198 to 206
Less: Intermediate consumption outlays	92.0	93.6	92.7	99.4	102.8	99 to 107
Farm origin	39.7	38.7	38.9	41.5	42.0	39 to 43
Feed purchased	20.4	19.3	20.1	21.4	23.0	21 to 25
Livestock and poultry purchased	14.8	14.3	13.9	14.9	13.8	11 to 15
Seed purchased	4.5	5.1	4.9	5.2	5.3	4 to 6
Manufactured inputs	22.0	23.2	22.7	23.2	24.0	23 to 27
Fertilizer and lime	8.2	8.7	8.3	8.4	9.1	9 to 11
Pesticides	5.4	6.3	6.5	6.7	7.0	6 to 8
Fuel and oils	5.8	5.6	5.3	5.4	5.4	4 to 7
Electricity	2.6	2.6	2.6	2.7	2.4	2 to 4
Other	30.3	31.7	31.1	34.7	36.8	34 to 40
Repair and maintenance	8.6	8.6	8.5	9.2	9.0	8 to 10
Machine hire and customwork	3.6	3.5	3.8	4.4	4.5	3 to 5
Marketing, storage, and transportation	4.2	4.7	4.5	5.6	6.2	5 to 7
Contract labor	1.6	1.6	1.8	1.9	1.9	1 to 3
Miscellaneous	12.4	13.2	12.5	13.7	15.2	14 to 18
Plus: Net Government transactions	3.2	2.3	3.0	6.8	1.0	0 to 2
+Direct Government Payments	9.3	8.2	9.2	13.4	7.8	6 to 8
-Vehicle registration and licensing fees	0.4	0.3	0.4	0.4	0.4	0 to 1
-Property taxes	5.7	5.6	5.8	6.3	6.5	6 to 8
Equal: Gross value added	100.1	92.7	101.3	95.4	104.1	94 to 104
Less: Capital consumption	18.3	18.2	18.3	18.4	18.4	17 to 21
Equal: NET VALUE ADDED	81.9	74.5	83.0	76.9	85.6	76 to 84

F = forecast. * = less than 0.5 million. n/a = not available.

1/ Components are from the farm income accounts and include income and expenses related to farm operator dwellings. The concept is consistent that employed by the Organization for Economic Cooperation and Development.

Appendix table 8--Farm sector rates of return, 1990-95

Item	1990	1991	1992	1993	1994F	1995F
Percent						
Rate of return on assets	4.3	3.2	4.2	3.0	3.9	3 to 4
Real capital gain on assets	-2.5	-4.0	-1.1	1.6	0.6	-3 to -4
Total real return on assets 1/	1.8	-0.8	3.1	4.5	4.5	0 to 1
Average interest rate paid on debt	9.3	8.3	7.7	7.3	7.4	7 to 8
Real capital gains on debt	5.0	4.1	3.2	2.6	2.8	3 to 4
Real cost of debt 2/	4.3	4.2	4.5	4.7	4.4	4 to 5
Rate of return on equity	3.4	2.2	3.6	2.1	2.7	2 to 3
Real capital gain on equity	-2.0	-3.9	-0.7	2.3	1.3	-3 to -4
Total real return on equity 3/	1.4	-1.7	2.8	4.4	3.4	-0 to -1
Real net return on assets financed by debt 4/	-2.5	-4.9	-1.4	-0.2	-0.1	-0 to -1

F = forecast. Numbers may not add due to rounding.

1/ Rate of return on assets from current income plus rate of return from real capital gains.

2/Average interest paid on debt minus real capital gains on debt.

3/ Rate of return on equity plus rate of return from real capital gains.

4/ Total real return on assets minus the real cost of debt. When the total real rate of return on assets exceeds the total real cost of debt, debt financing is advantageous.

Appendix table 9--Farm business balance sheet, 1990-95

Item	1990	1991	1992	1993	1994F	1995F
Billion dollars						
Farm assets	848.3	842.4	860.8	888.0	930	942 to 952
Real estate	628.2	623.2	633.1	656.3	692.0	704 to 714
Livestock and poultry	70.9	68.1	71.0	72.8	74.0	72 to 76
Machinery and motor vehicles	85.4	85.8	85.6	85.2	88.0	86 to 90
Crops stored 1/	22.8	22.0	24.1	23.4	26.0	25 to 27
Purchased inputs	2.8	2.7	3.9	4.2	3.0	2 to 4
Financial assets	38.3	40.6	43.1	46.2	47.0	45 to 49
Farm debt	137.4	138.8	138.6	141.9	146.6	150 to 154
Real estate 2/	74.1	74.5	75.0	76.0	77.5	77 to 81
Nonreal estate	63.2	64.3	63.6	65.9	69.2	72 to 74
Farm equity	710.9	703.6	722.2	746.1	781.9	780 to 800

F = forecast.

1/ Non-CCC crops held on farm plus value above loan rate for crops held under CCC. 2/ Includes CCC storage and drying Facility Loans.

Appendix table 10--Farm financial measures, 1990-95

Ratios	1990	1991	1992	1993	1994F	1995F
Ratio						
Liquidity ratios:						
Farm business debt service coverage 1/	2.35	2.32	2.51	2.55	2.36	2.2 to 2.4
Debt servicing 2/	0.15	0.15	0.14	0.14	0.14	0.14 to 0.16
Times interest earned ratio 3/	4.93	4.87	6.01	5.58	5.90	4.8 to 5.0
Percent						
Solvency ratios:						
Debt/asset 4/	16.2	16.5	16.1	16.0	15.9	15 to 17
Debt/equity 5/	19.3	19.7	19.2	19.0	18.9	20 to 21
Profitability ratios:						
Return on equity 6/	3.4	2.2	3.6	2.1	3.21	2 to 3
Return on assets 7/	4.3	3.2	4.2	3.0	3.91	3 to 4
Financial efficiency ratios:						
Gross ratio 8/	70.5	71.2	69.5	70.3	72.2	71 to 75
Interest to gross cash farm income 9/	6.8	6.2	5.6	5.2	5.5	5 to 7
Asset turnover 10/	22.3	21.9	22.1	22.6	21.8	20 to 22
Net cash farm income to debt 11/	40.1	38.3	41.4	41.2	37.3	34 to 38

F = forecast.

1/ Assesses the ability of farm businesses to repay interest and principal associated with farm business debt from net cash farm income. Higher values indicate a better cash position.

2/ Indicates the proportion of gross cash farm income needed to service debt. Lower values indicate a relatively better cash position.

3/ Focuses on the ability to meet interest payments out of net farm income. A higher value of the times interest-earned ratio indicates that net farm income covers more interest expense and that operator equity is less exposed to risk.

4/ Indicates the relative dependence of farm businesses on debt and their ability to use additional credit without impairing their risk-bearing ability.

5/ Measures the relative proportion of funds provided by creditors (debt) and owners (equity).

6/ Measures the per dollar returns to equity capital employed in the farm business from current income.

7/ Measures the per dollar return to farm assets from current income.

8/ Gives the proportion of gross cash farm income absorbed by cash production expenses. The higher the value of the ratio, the less efficient the farm sector is considered to be.

9/ Gives the proportion of gross farm revenue absorbed by interest payments. Higher values indicate a relatively fixed expense structure and less flexibility in meeting cash expenses as they arise.

10/ Measures the gross cash farm income generated per dollar of farm assets. The higher the value of the ratio relative to similar sized operations, the more efficiently the farm business uses its assets.

11/ Reflects the strain placed on cash-flow to retire debt. The lower the value, the greater the stress placed on farm earnings that remain after all payments necessary to retire farm debt on schedule have been made.

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